We claim:

1. A wavelength-converting casting composition, comprising:

a transparent casting resin;

an inorganic luminous substance pigment powder dispersed in said transparent casting resin, said pigment powder comprising luminous substance pigments selected from the group consisting of garnets doped with rare earths; thiogallates doped with rare earths; aluminates doped with rare earths; and orthosilicates doped with rare earths; and

said luminous substance pigments having grain sizes ≤ 20 μm and a mean grain diameter $d_{50} \leq 5$ μm.

2. The casting composition according to claim 1, wherein said luminous substance pigments are substantially spherical particles.

3. The casting composition according to claim 1, wherein said luminous substance pigments are flakelike particles.

4. The casting composition according to claim 1, wherein the mean grain diameter d_{50} of said luminous substance pigments is between one and two micrometers.

5. The casting composition according to claim 1, which comprises the following components:

a) epoxy casting resin ≥ 60 % by weight;

b) luminous substance pigments > 0 and ≤ 25 % by weight;

c) thixotropic agent > 0 and ≤ 10 % by weight;

d) mineral diffusor > 0 and ≤ 10 % by weight;

e) processing adjuvant > 0 and ≤ 3 % by weight;

f) hydrophobic agent > 0 and ≤ 3 % by weight; and

g) adhesion promoters > 0 and ≤ 2 % by weight.

6. The casting composition according to claim 1, wherein said luminous substance pigments are Ce-doped garnets.

7. The casting composition according to claim 1, wherein said luminous substance pigments are YAG:Ce based particles.

8. The casting composition according to claim 1, which comprises a content of iron ≤ 20 ppm.

9. The casting composition according to claim 1, wherein said luminous substance pigments are formed with a silicon coating.

10. The casting composition according to claim 1, wherein said luminous substance pigment powder and said casting resin are adjusted to convert a wavelength of ultraviolet, blue, or green light into a relatively longer wavelength.

11. The casting composition according to claim 1, wherein said luminous substance pigments are formed of a material from a phosphorus group having the general formula $A_3B_5X_{12}:M$, where A is at least one element selected from the group consisting of Y, Gd, Lu, Sc, and La; B is at least one element selected from the group consisting of Al and Ga; X is O; M is at least one element selected from the group consisting of Ce, Eu, Cr, Nd, Er, and Tb.

12. The casting composition according to claim 1, which comprises light-scattering particles added to said casting resin.

13. A light-emitting semiconductor component, comprising:

a semiconductor body formed of a semiconductor layer sequence and being capable, during an operation of the semiconductor component, of emitting electromagnetic radiation in a first spectral range selected from ultraviolet, blue, and green;

a wavelength-converting casting composition disposed in a vicinity of said semiconductor body and formed of a transparent casting resin and an inorganic luminous substance pigment powder dispersed in said transparent casting resin;

said pigment powder comprising luminous substance pigments selected from the group consisting of garnets doped with rare earths; thiogallates doped with rare earths; aluminates doped with rare earths; and orthosilicates doped with rare earths; and

said luminous substance pigments having grain sizes ≤ 20 μm and a mean grain diameter $d_{50} \leq 5$ μm and converting a portion of the radiation originating from said semiconductor component into radiation of a higher wavelength, such that the semiconductor component emits mixed radiation including the higher-wavelength radiation and radiation from the first spectral range.

14. The light-emitting semiconductor component according to claim 13, wherein said casting composition encloses at least a part of said semiconductor body.

15. The light-emitting semiconductor component according to claim 13, wherein said semiconductor body is adapted to emit

radiation in a blue spectral range having a maximum luminescence intensity at λ = 430 nm or at λ = 450 nm.

16. The light-emitting semiconductor component according to claim 13, which further comprises an opaque base housing having a recess formed therein, said semiconductor body being disposed in said recess and said recess being at least partially filled with said casting composition.

17. The light-emitting semiconductor component according to claim 13, wherein said casting composition is provided with various kinds of luminous substance pigments in respect to a host lattice distribution and a type and extent of doping.

18. The light-emitting semiconductor component according to claim 13, wherein said semiconductor body is a blue light emitting semiconductor body, and said luminous substance pigments are Ce-doped phosphors adapted to shift some of the blue light emitted by said semiconductor body into a yellow spectral range, whereby the semiconductor component emits white light.

19. The light-emitting semiconductor component according to claim 13, wherein said semiconductor body is a blue light

emitting semiconductor body, and said luminous substance pigments shift some of the blue light emitted by said semiconductor body into a green and red spectral range, whereby the semiconductor component emits white light.

20. The light-emitting semiconductor component according to claim 13, wherein said pigment are formed of a material from a phosphorus group having the general formula $A_3B_5X_{12}:M$, where A is at least one element selected from the group consisting of Y, Gd, Lu, Sc, and La; B is at least one element selected from the group consisting of Al and Ga; X is O; M is at least one element selected from the group consisting of Ce, Eu, Cr, Nd, Er, and Tb.

21. The light-emitting semiconductor component according to claim 13, wherein the mean grain diameter d_{50} of said luminous substance pigments is between one and two micrometers.

22. The light-emitting semiconductor component according to claim 13, which comprises light-scattering particles added to said casting resin.

23. The light-emitting semiconductor component according to claim 13, wherein said luminous substance pigment powder is a tempered pigment powder.